

DETAILED ACTION

The following is a first action on the merits of application Serial No.10/562,350, filed May 2, 2006. The preliminary amendment filed March 14, 2006 has been entered. Accordingly, the substitute specification has been entered, and claims 1 and 8-25 are pending.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

Receipt is acknowledged of the Information Disclosure Statement filed December 27, 2005. The cited documents have been considered, except for the German document, DE 1805396U, for which no concise statement of relevance was provided.

Drawings

The drawings are objected to because, under 37 CFR 1.84(u), a single view must not be numbered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

In line 6 of page 3 of the substitute specification, "first pressure spring 42" apparently should be – first pressure plate 42 --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 8-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 8 of claim 1, "the first pressure plate" lacks a proper antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8-13, 17-19, 21-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayr('693) in view of Kirkwood et al.('053). Mayr discloses a coupling assembly comprising an axial setting device in the form of a ball ramp assembly. The assembly includes an axially supported supporting disc 11 and an axially displaceable pressure disc 17. Facing surfaces of the discs have ball grooves 22 and 28 receiving balls 23. Electric motor 25 rotates the discs relative to one another. In Mayr, the axially displaceable disc acts on pressure plate 41 to load the friction coupling 31. The Kirkwood et al. device has a friction coupling 80 wherein a first pressure plate 150 acts on a second pressure plate 96 via a disc spring 148, the second pressure plate loading the clutch pack 90 of the coupling. The apex of the disc angle of the disc spring points toward the first pressure plate. The outer circumference of the

disc spring is secured at the coupling carrier 88, and the spring acts on the second pressure plate by an intermediate diameter. The second pressure plate has a formed-on annular collar 98 against which the spring acts. It would have been obvious to provide the force amplification arrangement of Kirkwood et al. in the Mayr device, providing a first pressure plate acting on a second pressure plate via a disc spring, the motivation being to permit the use of a smaller and/or less powerful motor 25 in Mayr.

Claims 14-16, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayr('693) in view of Kirkwood et al.('053) as applied to claims 1, 8-13, 17-19, 21-23 and 25 above, and further in view of Nakayama et al.('953). In the device taught by the combination of Mayr and Kirkwood et al., the outer circumference of the spring is fixed axially by a single securing ring 154. The Nakayama et al. device shows a similar force amplification arrangement wherein disc spring 44 acts on pressure plate 45 and is axially fixed at its outer edge by two securing rings 49b, 49c secured to coupling carrier 41. It would have been obvious to similarly secure the disc spring in the combination taught by Mayr and Kirkwood et al., since this is a known arrangement in the art and would have yielded predictable results to one having ordinary skill in the art at the time of the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (571)

272-7089. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rodney H. Bonck/
Primary Examiner, Art Unit 3681

rhb
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